

REMARKS

Claims 1, 2, 4-6, 8-16, 18-26, 39-42, and 45 were pending in the Application prior to the outstanding Office Action. In the Office Action, claims 1, 2, 4-6, 8-16, 18-26, 39-42, and 45 were rejected under 35 U.S.C. §103(a). In the Listing of Claims above, Applicants have amended claims 1, 2, 4, 5, 9, 15, 16, 18, 19, 22, 39 and 41 and have added claims 47 and 48. Applicant notes that the cover sheet of the office action omits the listing of pending claim 16 but this claim is mentioned in the body of the office action.

I. RESPONSE TO REJECTIONS UNDER 35 U.S.C. §103(a)

In the Office Action the Examiner rejected claims 1, 2, 4-6, 8-16, 18-26, 39-42, and 45 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,470,227 issued to Rangachari et al. ("*Rangachari*"), in view of U.S. Patent No. 6,463,352 issued to Tadokoro et al. ("*Tadokoro*"), and further in view of U.S. Patent No. 6,944,584 issued to Tenney et al. ("*Tenney*").

Rangachari describes details of a material handling system in which object oriented programming is used to interface between applications and equipment. *Rangachari* discloses a number of software "servers" 49, all of which run on a single computer program 10 in addition to an equipment manager 18 and a workflow engine 19. In *Rangachari*, a graphical user interface is disclosed with respect to workflow definition and registration, which is the process of determining in advance the steps of a job. However, the user interface of *Rangachari* is not used for direct tool management and as such there is no remote management of a tool through requests received via a network.

Tadokoro describes the management of cutting machines over a network. Status information for each cutting machine is received by a data acquisition device and reported to a machine monitor object. Remote users running Web browsers can manipulate a database containing the details of a job order, and can query the status of machines. However, the cutting machines of *Tadokoro* can only be queried over the network and as such *Tadokoro* does not disclose the ability to remotely perform any action on cutting machines (see for example, Col. 1, lines 27-30). Figures 1, 2a and 2b illustrate cutting machines 1 with a one way path to data acquisition devices 3.

Tenney describes a simulation and code development environment for robotic systems that allows developers to write and test control and simulation programs for controlling robotic devices. The servers 101 disclosed in *Tenney* are connected to peripheral devices 103, 105 and 107 through a high-speed bus 109 (see Fig. 1, column 3, line 62 – column 4 line 3). *Tenney* discloses a multiple-client system that can communicate with multiple robotic systems, such as shown in Fig. 7. However, each ControlFoundry Server 101 controls a separate workcell 201. (see column 101, lines 18 – 29), and as such each client must communicate with multiple servers to display multiple workcells (see column 10, lines 12 – 17). In an alternative embodiment shown in Fig. 9 of *Tenney*, there is no server and the client communicates directly with multiple devices individually (see column 11, lines 23 – 35).

A. Independent Claim 1 is Patently Distinguishable over *Rangachari* in view of *Tadokoro* and further in view of *Tenney*

Independent claim 1, as amended, recites “a tool server apparatus coupled with a remote client system via a first network and coupled with a plurality of tools via a second network,” recites “receiving a first request from the remote client system via the first network” and “sending a first message to one of said plurality of tools via the second network .. wherein said first message is operable for controlling an action of said one of said plurality of tools” and further recites “wherein the remote client system comprises a user interface to said one of said plurality of tools.”

Rangachari does not teach or suggest such a tool server apparatus since it does not disclose a user interface with respect to controlling an action on a tool, and does not disclose remote controlling of a tool through requests received via a network. *Rangachari* further does not teach or suggest a configuration in which a user operating a user interface on a remote client system can communicate over a network to operate a tool.

Tadokoro does not teach or suggest such a tool server apparatus; there is no teaching or suggestion of a configuration in which a user operating a user interface on a remote client system can communicate over a network to operate a tool.

Tenney does not teach or suggest such a tool server apparatus, since each server in *Tenney* is coupled to a separate robotic system, and a client must communicate with multiple servers in order to communicate with multiple tools. Neither embodiment disclosed in *Tenney*

teaches or suggests a user operating a user interface on a remote client system communicating with a single server over a network in order to control multiple tools

The combination of *Rangachari*, *Tadokoro* and *Tenney* does not teach or suggest such a tool server apparatus. Even in combination, there is no teaching or suggestion of a tool server apparatus coupled to a plurality of tools such that a first request is received over a first network and a first message operable for controlling an action on a tool is sent over a second network.

In view of the foregoing, Applicants assert that the method recited in claim 1 is not obvious over *Rangachari* in view of *Tadokoro* and further in view of *Tenney*.

B. Dependent Claims 2, 4-6, 8-14, 39, 40 and 47 are Patently Distinguishable over Rangachari in view of Tadokoro and further in view of Tenney

Dependent claims 2, 4-6, 8-14, 39, 40 and 47 depend directly or indirectly from independent claim 1. These dependent claims include all of the limitations of the independent claim from which they depend. Applicants respectfully assert that dependent claims 2, 4-6, 8-14, 39, 40 and 47 are allowable for at least the reasons set forth above concerning independent claim 1.

C. Independent Claim 15 is Patently Distinguishable over Rangachari in view of Tadokoro and further in view of Tenney

Independent claim 15, as amended, recites “a tool server, coupled with a remote client system via a first network and coupled with a plurality of tools via a second network,” recites “a first request from the remote client system via the first network” and “a first message to one of said plurality of tools via the second network .. wherein said first message is operable for controlling an action of said one of said plurality of tools” and further recites “wherein the remote client system comprises a user interface to said one of said plurality of tools.”

Rangachari does not teach or suggest such a tool server since it does not disclose a user interface with respect to controlling an action on a tool, and does not disclose remote controlling of a tool through requests received via a network. *Rangachari* further does not teach or suggest a configuration in which a user operating a user interface on a remote client system can communicate over a network to operate a tool.

Tadokoro does not teach or suggest such a tool server; there is no teaching or suggestion of a configuration in which a user operating a user interface on a remote client system can communicate over a network to operate a tool.

Tenney does not teach or suggest such a tool server, since each server in *Tenney* is coupled to a separate robotic system, and a client must communicate with multiple servers in order to communicate with multiple tools. Neither embodiment disclosed in *Tenney* teaches or suggests a user operating a user interface on a remote client system communicating with a single server over a network in order to control multiple tools.

The combination of *Rangachari*, *Tadokoro* and *Tenney* does not teach or suggest such a tool server apparatus. Even in combination, there is no teaching or suggestion of a tool server apparatus coupled to a plurality of tools such that a first request is received over a first network and a first message operable for controlling an action on a tool is sent over a second network.

In view of the foregoing, Applicants assert that the method recited in claim 15 is not obvious over *Rangachari* in view of *Tadokoro* and further in view of *Tenney*.

D. Dependent Claims 16, 18-26, 41, 42, 45 and 48 are Patently Distinguishable over Rangachari in view of Tadokoro

Dependent claims 16, 18-26, 41, 42, 45 and 48 depend directly or indirectly from independent claim 15. These dependent claims include all of the limitations of the independent claim from which they depend. Applicants respectfully assert that dependent claims 16, 18-26, 41, 42, 45 and 48 are allowable for at least the reasons set forth above concerning independent claim 15.

Additional Remarks

The Examiner has requested that the Applicants cite to portions of the specification in connection with amendments made to the claims. Applicants note that for example, Fig. 1 and the specification from page 8 line 13 through page 10, line 5 discuss clients 112 – 115 networked with server 110 via LAN 122 and the Internet via ISP 118, and server 110 networked with tools 111 via LAN 124. Also noted is the possibility that tools 111 can alternatively be connected to LAN 122. This is an exemplary citation and the Applicant notes that the specification as a whole is important in interpreting the pending claims. Applicants further note that scope of the invention is defined by the claims themselves and not limited to the preferred embodiments.

The prior art references cited but not relied on have been reviewed and none renders any pending claim obvious, alone or in combination with any other known reference. In light of the above, it is respectfully submitted that all of the claims now pending in the subject patent application are allowable.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 50-3548 for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

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By:



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